Amendments to the Claims:

1. (currently amended) A method of optical network termination for removing noise accumulation in an optical ring network, said method comprising the steps of:

demultiplexing an input optical signal into ~~including~~ a plurality of ~~in-use channels and one or more unused~~ channels~~, said plurality of input optical signals~~ potentially corrupted with noise accumulation;

determining which of said channels are in-use channels and which are unused channels;

effectively removing said unused channels from said optical ring network by attenuating said unused channels sufficiently so as to prevent noise on said unused channels from circulating infinitely around said optical ring network; and

~~blocking said one or more unused channels so as to eliminate noise from infinitely circulating over said unused channel through said optical network; and~~

multiplexing said plurality of in-use channels ~~and said one or more blocked unused channels~~ onto said optical network.

2. (currently amended) The method according to claim 1, wherein said step of ~~blocking~~ removing comprises applying a maximum attenuation level.

3. (cancelled)

4. (previously amended) The method according to claim 1, wherein said noise accumulation comprises noise caused by amplifier spontaneous emissions (ASE).

5. (currently amended) The method according to claim 1, further comprising [[a]] the step of monitoring said plurality of channels to determine whether a channel is in-use or unused.

6. (currently amended) The method according to claim [[2]] 1, wherein said step of demultiplexing is operative to be transparent to a protocol of each individual optical signal.

7-10. (canceled)

11. (previously amended) The method according to claim 1, further comprising monitoring the power level of each individual optical signal.

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12. (previously amended) The method according to claim 1, further comprising equalizing the gain of each individual optical signal.

13. (currently amended) The method according to claim 1, further comprising the step of ~~blocking~~ attenuating each individual optical signal in accordance with a corresponding control input.

14. (previously amended) The method according to claim 1, wherein said optical network employs dense wavelength division multiplexing (DWDM) techniques.

15-20. (canceled)

21. (currently amended) An optical network terminator for removing accumulated noise from a wavelength division multiplexed (WDM) optical signal in an optical ring network, comprising:

an optical demultiplexer operative to demultiplex said WDM optical signal into a plurality of ~~in-use channels and one or more unused~~ ~~channels, said plurality of in-use~~ channels ~~and said one or more unused channels~~ potentially corrupted with noise accumulation;

means for determining which of said channels are in-use channels and which are unused channels;

means for attenuating ~~one or more optical attenuators, each attenuator associated with an unused channel and operative~~ said unused channels sufficiently so as to prevent noise from infinitely circulating over said unused channels ~~through~~ around said optical ring network; and

an optical multiplexer adapted to multiplex said plurality of in-use channels ~~and the output of said one or more optical attenuators~~ to generate an output WDM optical signal therefrom with noise accumulation removed.

22-24. (canceled)

25. (previously amended) The optical network terminator according to claim 21, wherein said noise accumulation comprises noise caused by amplifier spontaneous emissions (ASE).

26. (previously amended) The optical network terminator according to claim 21, wherein said optical demultiplexer is adapted to be transparent to a bit-rate of each individual optical channel.

27. (previously amended) The optical network terminator according to claim 21, wherein said optical demultiplexer is adapted to be transparent to a protocol of each individual optical channel.

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28. (previously amended) The optical network terminator according to claim 21, further comprising a monitor operative to determine whether a channel is in-use or unused.

29. (previously amended) The optical network terminator according to claim 21, further comprising an equalizer coupled to each optical channel between said optical demultiplexer and said optical multiplexer, said equalizer adapted to equalize the optical gain of each optical channel.

30. (currently amended) The optical network terminator according to claim 21, wherein the attenuation level of said optical attenuators is increased high enough to ~~effectively remove~~ significantly reduce the amplitude of said unused channels thereby preventing the infinite circulation of noise in said optical network.

31. (previously amended) The optical network terminator according to claim 21, wherein the wavelength of each individual optical channel is determined by said optical demultiplexer.

32. (currently amended) The optical network terminator according to claim 21, wherein said ~~optical attenuators are~~ means for attenuating is adapted to be controlled remotely.

33. (currently amended) The optical network terminator according to claim 21, ~~further comprising an optical attenuator~~ wherein said means for attenuation is placed in series with each in-use channel between said optical demultiplexer and said optical multiplexer, said ~~optical attenuator~~ means for attenuation adapted to control the power level of the optical signal in each in-use channel.

34. (original) The optical network terminator according to claim 21, further comprising means for reducing cross talk placed in series with each optical channel, said means operative to reduce the cross talk between adjacent optical channels.

35. (previously amended) The optical network terminator according to claim 21, further comprising gain setting means placed in series with each optical channel between said optical demultiplexer and said optical multiplexer, said gain setting means adapted to set the gain of each channel substantially equal to each other.

36. (currently amended) An optical ring network, comprising:

a plurality of nodes, wherein wavelength division multiplexed (WDM) optical signals communicated from node to node include ~~used channels and unused channel whereby~~

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~~said unused channels circulate accumulated noise infinitely around said optical network~~ a plurality of channels;

an optical network terminator for preventing the infinite circulation and accumulation of noise within said optical network, wherein said optical network terminator comprises:

an optical demultiplexer operative to demultiplex said WDM optical signal into a plurality of ~~in-use channels and one or more unused channels, said plurality of in-use~~ channels ~~and said one or more unused channels~~ potentially corrupted with noise accumulation;

means for determining which of said channels are in-use channels and which are unused channels;

means for attenuating ~~one or more optical attenuators, each attenuator associated with an unused channel and operative~~ said unused channels to a sufficiently low level so as to prevent noise from infinitely circulating over said unused channels ~~through~~ around said optical ring network; and

an optical multiplexer adapted to multiplex said plurality of in-use channels ~~and the output of said one or more optical attenuators~~ to generate an output WDM optical signal therefrom with noise accumulation removed.

37. (previously amended) The network according to claim 36, wherein said noise accumulation comprises noise caused by amplifier spontaneous emissions (ASE).

38. (previously amended) The network according to claim 36, wherein the wavelength of each optical channel is fixed and determined by said optical demultiplexer.

39. (previously amended) The network according to claim 36, wherein said optical demultiplexer is adapted to be transparent to a bit-rate of each individual optical channel.

40. (previously amended) The network according to claim 36, wherein said optical demultiplexer is adapted to be transparent to a protocol of each individual optical channel.

41. (previously amended) The network according to claim 36, further comprising a monitor operative to determine whether a channel is used or unused.

42. (previously amended) The network according to claim 36, further comprising an equalizer coupled to each optical channel between said optical demultiplexer and said optical multiplexer, said equalizer adapted to equalize the optical gain of each optical channel.

43. (canceled)

44. (previously amended) The network according to claim 36, wherein said optical network employs dense wavelength division multiplexing (DWDM) techniques.

45. (canceled)

46. (currently amended) The network according to claim 36, ~~further comprising an optical attenuator~~ wherein said means for attenuating is placed in series with each used channel between said optical demultiplexer and said optical multiplexer, said ~~optical attenuator~~ means for attenuating adapted to control the power level of the optical signal in each used channel.

47. (original) The network according to claim 36, further comprising means for reducing cross talk placed in series with each optical channel, said means operative to reduce the cross talk between adjacent optical channels.

48. (previously amended) The network according to claim 36, further comprising gain setting means placed in series with each optical channel between said optical demultiplexer and said optical multiplexer, said gain setting means adapted to set the gain of each channel substantially equal to each other.

49. (original) The network according to claim 36, wherein said optical network comprises an optical ring network.

50-52. (canceled)

53. (currently amended) A wave division multiplexed (WDM) optical ring network, comprising:

a plurality of nodes coupled to form an optical ring, wherein a portion of said nodes employs one or more optical amplifiers that add unwanted noise to an optical signal, said optical signal including in-use channels and unused channels whereby said unused channels potentially circulate said accumulated noise infinitely around said optical ring;

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an optical network terminator for removing said noise accumulation from said optical signal, wherein said optical network terminator comprises:

an optical demultiplexer operative to demultiplex said WDM optical signal into a plurality of optical channels having different wavelengths including in-use channels and unused channels;

means for attenuating said unused channels ~~a plurality of optical attenuators, each optical attenuator associated with an unused optical channel, said optical attenuator operative to effectively block the optical signal in an unused channel~~ thereby preventing the infinite circulation of noise accumulation around said optical ring;

a plurality of monitors, each monitor coupled in-line to an optical channel, said monitor operative to measure the optical power of a respective channel in response thereto, determine whether a channel is in-use or unused; and

an optical multiplexer optically coupled to the output of said plurality of monitors, said optical multiplexer operative to multiplex said optical channels to generate an output optical signal therefrom with noise accumulation removed.

54. (original) The network according to claim 53, wherein said optical demultiplexer is operative to generate eight channels corresponding to eight different wavelengths.

55. (previously amended) The network according to claim 53, wherein said optical multiplexer is operative to multiplex eight channels corresponding to eight different wavelengths.

56. (original) The network according to claim 53, wherein said optical ring terminator is adapted to be transparent to the bit-rate of each individual optical channel.

57. (original) The network according to claim 53, wherein said optical ring terminator is adapted to be transparent to the protocol of each individual optical channel.

58. (original) The network according to claim 53, wherein said optical ring terminator is adapted to provide remote enabling/disabling of individual optical channels.

59. (original) The network according to claim 53, wherein said optical ring terminator is adapted to enable the gain equalization of said plurality of optical channels.

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60. (original) The network according to claim 53, wherein said optical ring terminator is adapted to enable in-line monitoring of power level of said plurality of optical channels.

61-62. (canceled)

63. (currently amended) An optical ring network employing wave division multiplexing (WDM), comprising:

a plurality of nodes optically coupled to each other to form an optical ring;

one or more optical amplifiers located with said plurality of nodes, each optical amplifier causing amplifier spontaneous emissions noise to be injected and accumulated onto WDM optical signals transmitted from node to node in said optical ring;

an optical terminator located between any two nodes on said optical ring, said optical terminator for preventing accumulated amplifier spontaneous emissions noise from circulating indefinitely around said optical ring, said optical terminator comprising:

an optical demultiplexer operative to demultiplex said WDM optical signal into a plurality of ~~in-use channels and one or more unused~~ channels~~, said plurality of in-use channels and said one or more unused channels~~ potentially corrupted with noise accumulation;

means for determining which of said channels are in-use channels and which are unused channels;

means for attenuating ~~one or more optical attenuators, each attenuator associated with an unused channel and operative~~ said unused channels to a sufficiently low level so as to prevent noise from infinitely circulating ~~over said unused channels through~~ around said optical network; and

an optical multiplexer adapted to multiplex said plurality of in-use channels ~~and the output of said one or more optical attenuators~~ to generate an output WDM optical signal therefrom with noise accumulation removed.

64. (previously amended) The method according to claim 63, wherein the wavelength of each individual optical signal is determined by said optical demultiplexer.

65. (canceled)